STUDIES OF THE GENUS EMPOASCA (HOMOPTERA-CICADELLIDAE)—XIV. SOME NEW SPECIES OF MEXICAN EMPOASCA.

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Many species of *Empoasca* have previously been described in this series of studies. Another group of six new species of Mexican *Empoasca* is described below. Of this number, three are green in color one of which, *comara,* has a bright red face. The other three species *anoteya, tepona,* and *tolinda* are mottled, spotted or banded and resemble in coloration species of *Erythroneura.* The types of all species are in the DeLong collection.

Empoasca callera n. sp.

An elongate greenish species resembling *fabae* in general appearance but with more produced head and distinct male genitalia. Length 4.5 mm.

Crown produced and bluntly pointed, about one and one-half times as wide at base between the eyes as medium length.

Color pale green with a pair of round, dark green spots on disc with light longitudinal areas between these spots and on the outer side of each. Apex and upper portion of face tinted with orange-yellow. Face pale green, clypeus dark green. Pronotum pale green, anterior half almost white. Scutellum pale green, the median half with a white longitudinal area. The elytra pale greenish subhyaline.

Genitalia: Female seventh sternite with posterior margin produced and bluntly angled. Male plates rather long, curved upward at apex caudad to pygofers. The styles are rather short, tapered, curved outwardly and pointed at apex. The lateral processes are long, narrowed at four-fifths their length and curved outwardly to form "S"-shaped apices which are slightly enlarged at the tip. The dorsal spine is broad, rather short and pointed on the anterior ventral margin. The aedeagus is long, rather slender constricted just before apex, then broadened with apex flat, transverse. A short anteriorly directed, pointed process arises just before the constricted portion.

Holotype male and paratype males collected at Puebla Pue, Mexico, October 18, 1941 (K-78) by DeLong, Plummer, Caldwell, and

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Good. Allotype female and female paratype from Zimapan Hdg. (17 mi. north) collected September 26, 1941 by Good, Caldwell, and DeLong. A male paratype from San Jacinto, Mexico D.F. was collected June 20, 1930 by Dr. Dampf.

Empoasca tepona n. sp.

Resembling a species of *Erythroneura* in appearance, with three pairs of conspicuous, black spots on pronotum and clavus of elytra. Male genital structures distinct. Length 3 mm.

Crown bluntly angled, one-third wider between eyes than median length.

Color pale yellowish, crown, face and scutellum unmarked. Pronotum with a pair of large, round, black spots on disc. Elytra with a pair of large, round, black spots on clavus, one either side of scutellum and a proximal pair at middle of clavus along commissure. There is a series of brown spots extending obliquely from costa to clavus just before the apical cross veins and the portion posterior to the cross veins is uniform brown except where the veins are broadly bordered with white.

Genitalia: Male styles long, greatly exceeding pygofer, and upturned at apex. The styles are elongate constricted near middle, the apex is tapered and pointed. The lateral processes are long, the apical half gradually tapers to a sharp pointed apex. The aedeagus is rather short and broadened apically where it is divided into two general parts both of which are bifid. The ventral portion is more narrowed and shorter and bifid at the apex. The dorsal portion is separated from the ventral portion by a broad notch and is directed dorsally. Its apex is broadly deeply notched forming a slender anterior process and a broader posterior process. The pygofer spine is long sickle-like with the apex directed ventrally and tapered to a sharp pointed apex.

Holotype male and paratype males collected at Ixmiquilpan Hgo., Mexico, September 27, 1941 by Caldwell, Good and DeLong.

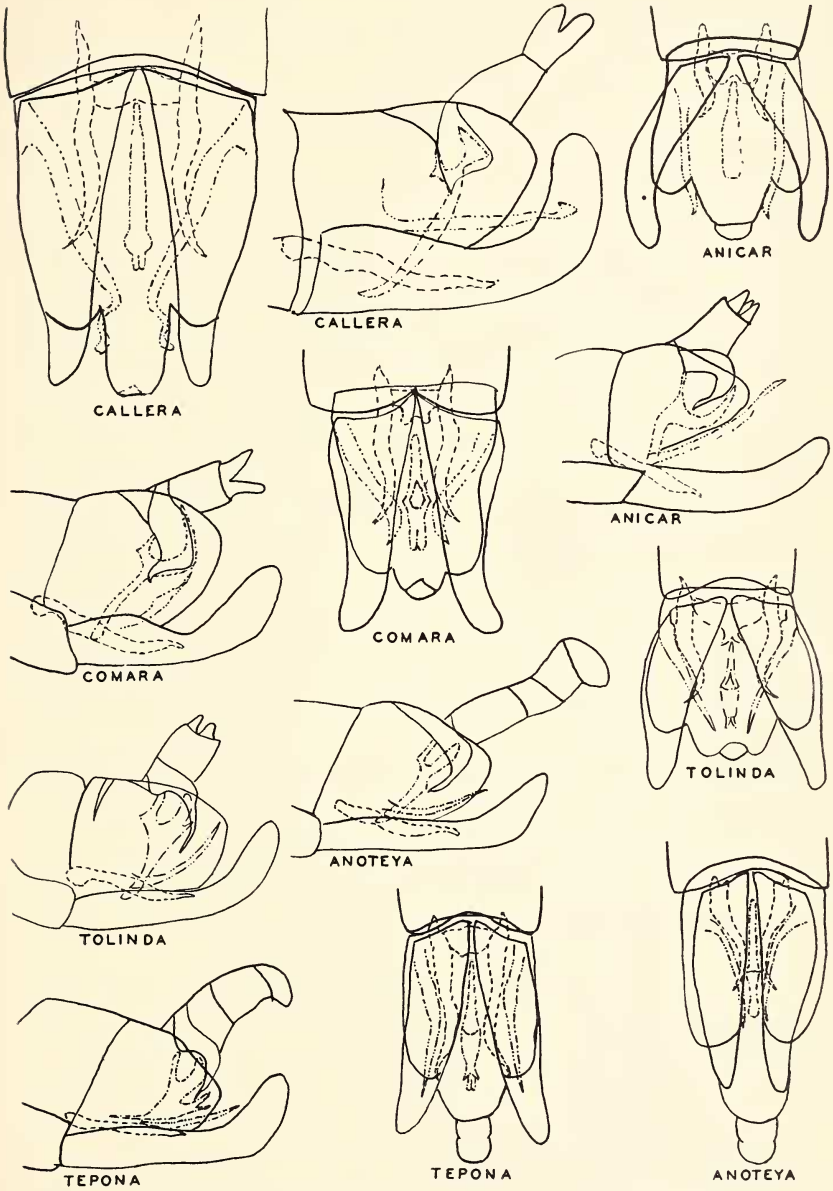
Empoasca tolinda n. sp.

A small blunt headed species resembling an *Erythroneura* because of the color of its wings. The male genitalia are distinct. Length 3 mm.

Crown blunt in male about as long at middle as width between eyes at base. Crown appearing more produced in female, but the proportions of width to length are about the same.

Color: Male yellowish with brown markings. The crown is mottled with brown. The face, pronotum and scutellum are dark

BULL. B.E.S. VOL. XLIX PLATE IV



Lateral and ventral views of genital capsules of males as named showing position of styles, aedeagi and pygofer hooks.

brown. There is a slight pale spot at the anterior median portion of the pronotum. The elytra are flecked with yellow as in the elytra of *Erythroneura* of the *maculata* group. There is a broad, interrupted transverse band across the middle of each elytron. This coloration is dark on the costal margin and the claval portion. It is paler and interrupted on the median portion. The female is paler in color and may not represent the same species.

Genitalia: Female seventh sternite angularly produced on the posterior margin. Male plates long, rather slender, curved upward at the apex. Styles short, thickened at middle, tapered at apex to sharp-pointed tips and curved outwardly. Lateral processes long, narrow, tapered to sharp-pointed apices. The aedeagus is narrow at the base, broadened just beyond middle and deeply, broadly excavated on apical third forming an anterior dorsally directed process and a slightly broader posterior process which bears a short spine on its posterior margin at its base. The dorsal pygofer spine is long, its apical half is slender, tapered and pointed at apex which is directed ventrally.

Holotype male and allotype female collected at Orizaba Veracruz, Mexico (K-280), October 17, 1941 by DeLong, Plummer, Caldwell, and Good.

Empoasca comara n. sp.

In general form and appearance resembling *fabae* but with bright red coloration on the face, apex of crown and with distinct genitalia. Length 4 mm.

Elongate and rather slender, crown produced, blunt, almost rounded at apex, the width at base not quite one and one-half times the median length.

Color pale almost white, with reddish markings. The face and portions of the head beneath the eyes are bright red. This coloration extends up over the vertex except for pale spots surrounding the ocelli. Crown mostly pale from anterior margins of eyes to base. Pronotum pale, the disc orange red, with a paler longitudinal line through middle of disc. Scutellum white, basal angles more yellowish. Elytra white, subhyaline.

Genitalia: Male styles elongate, narrowed toward apex. The lateral processes are shortened, not as long as aedeagus, thickened to near apex then rather abruptly pointed. The dorsal pygofer spine is broad, extending ventrally and with an anteriorly produced spine-like apex on the ventro-anterio margin which is curved downward and pointed at apex.

Holotype male collected at Chilpancingo Gro., Mexico, October 25, 1941 by E. E. Good and D. M. DeLong.

Empoasca anicar n. sp.

A yellowish species, resembling *fabae* in general appearance but with distinct male genitalia. Length 3.5 mm.

Crown blunt, produced, almost twice as wide between eyes at base as median length.

Color golden yellow, crown with a white spot around each ocellus and a median elongate white spot at middle. Pronotum with three rather large white spots on the anterior margin, one at middle and one behind each eye. Pronotum pale on median apical portion. Elytra golden yellow. Face yellowish.

Genitalia: Male styles long and narrowed on apical portion. Lateral processes long, slender and with apices slightly tapered and pointed. The pygofer spine is almost semicircular in its curvature extending caudally then curving anteriorly on the ventral portion. The basal portion is thickened, then it is narrowed on the apical third and pointed at the apex. The aedeagus is bent at its middle to form a long thickened spine-like portion which extends caudally then curves dorsally and tapers to a pointed apex. An anterior process is narrow and extends dorsally.

Holotype male collected at Taxco Gro., Mexico, October 26, 1941 (K-150) by E. E. Good and D. M. DeLong.

Empoasca anoteya n. sp.

A pale yellowish species with transverse color bands on the elytra and mottling resembling a species of *Erythroneura.* Similar in form to *anicar,* with distinct genitalia. Length 3–3.5 mm.

Crown blunt at apex, slightly produced, about one and one-half times as wide between eyes at base as median length.

Color pale yellow marked with white and dark brown. Face yellow with dark brown at sides beneath the eyes and extending down to the clypeus. Crown and pronotum white mottled with pale yellow. Scutellum with basal angles yellow and apical fourth dark brown. The elytra are white with an irregular dark brown band across base including the apex of scutellum and a broad, dark brown band on each side on costal margin at apex of clavus extending almost half way to the commissural suture. Three spots, two on clavus each side and one between these and just outside the claval vein, yellow. These resemble the pale markings of an *Erythroneura* wing of the *maculata* group.

Genitalia: Female seventh sternite with the posterior margin broadly roundedly produced. The male styles are decidedly longer than the pygofer and tapered on the apical portion. The lateral

processes are rather long and narrow, tapered to sharp pointed apices. The dorsal pygofer spine is thickened on the basal two-thirds then curved anteriorly and ventrally with the apical one-fourth narrowed, pointed at apex and extending anteriorly. The aedeagus is slightly thickened at about two-thirds its length forming an anterior slender dorsally directed process. The caudal portion is the aedeagus proper and is narrowed and blunt at apex.

Holotype male, allotype female and female paratypes collected at Uruapan Mich., Mexico, October 1, 1941 by DeLong, Plummer, Caldwell, and Good.

INTERNATIONAL UNION FOR THE STUDY OF SOCIAL INSECTS.

The number of scientists interested in the investigation of problems concerning the social insects, and the variety of interests among these individuals, have increased sufficiently to create a demand for an international organization to coordinate their efforts and facilitate the study of such problems.

After a preliminary meeting at the 1951 International Congress of Entomology in Amsterdam, the organization of national branches proceeded in France, Germany, Italy, the United States, and other countries. The International Union through which these branches are now associated has its office in Paris, 105 Boulevard Raspail, at the laboratory of Dr. Pierre-P. Grassé, who is President of the international organization.

The principal objective of the International Union is to encourage the scientific study of problems concerning the social insects including all phases of their biology, ecology, taxonomy, and behavior, and to facilitate the exchange of evidence and ideas in this general field through conferences and appropriate publications. The organization will thus foster communication within a large and heterogeneous international body of scientists interested in the social insects and related forms. Previously, articles published on subjects cognate to the social insects have been scattered through a considerable number of highly diversified journals, and integration has been correspondingly limited among the interested investigators and students themselves.

An introductory *BULLETIN* of three numbers was published in France during 1953 and issued to members through the Paris office. Beginning in 1954 an illustrated journal of 320 pages entitled "Insectes Sociaux" will be published by Masson and issued in an annual